

SOCIOLINGUISTICS AND STRATIFICATIONAL THEORY: A DISCUSSION AND AN EXAMPLE

by Michael Eric Bennett

INTRODUCTION

In his article on grammar and sociolinguistics, Itkonen (1977:238-239) equates the "variationist" approach to linguistics¹ with "sociolinguistics," and this identification is central to his article:

Rules of language constitute the institutional framework within which actual speaking takes place. The one could not exist without the other, but it is clear that rules are primary with respect to any particular acts of speaking. In this sense, then, an institution is the precondition of institutional behavior. Since sociolinguistics investigates actual speaking (and the influence of extra-linguistic variables on it), grammar *qua* investigation of linguistic rules investigates a precondition of (the data of) sociolinguistics. At the atheoretical level, knowledge of linguistic rules is a precondition of actual speech; at the theoretical level, knowledge of linguistic rules is a precondition for describing actual speech. (Itkonen 1977:250)

Thus, for Itkonen, a formal account of linguistic rules is a mandatory precondition of a formal account of linguistic variation; but he does not discuss what shape(s) such formal accounts should take. It is the purpose of this paper to discuss some aspects of the relationship between stratificational theory and sociolinguistics, and to illustrate how certain "sociolinguistic" phenomena in Gros Ventre, an Amerindian language, can be accommodated in a stratificational framework.²

I. STRATIFICATIONAL THEORY AND SOCIOLINGUISTIC PHENOMENA

It should be clear from the literature that stratificational theorists have always implicitly recognized the need to account for language and its relation to the social and cultural life of its speakers. For example, as far back as 1966, Austin was using a stratificational framework to describe attention, emphasis, and focus in a Philippine language, Ata Manobo. In her work she explored how speakers of this language convey subjective information, i.e., their "feelings"

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about certain topics, through the use of various grammatical forms.³ In the same year, Williams, building on previous work by Lamb (1964, 1965), discussed "the relevance of . . . a stratificational view of language" to the study of cultural and social systems (Williams 1966:20).

The stratificational concept of alternation, graphically symbolized with downward OR nodes, may be useful in treating some types of linguistic variation. Lockwood (1972:271) points this out when he discusses the need for stratificational theory to deal with "synchronic variation correlated with social class, occupation, or stylistic choice." In this context, "variation" should be understood to mean "non-performance-related variation." The latter would refer to phenomena such as slips of the tongue and errors in concord agreement.⁴

For the past decade, Herrick has been exploring the treatment of "style" within a stratificational framework. He defines "style" as "a consistent preference within an utterance for one set of linguistic forms among several which are equally grammatical" (Herrick 1970:1). It is fairly obvious that many variation phenomena are conditioned by factors both within and outside the language proper. Alternations such as *good* ~ *bett-* are conditioned by a certain morphological environment, but the choice between *good* or *bad* in the sentence "That's a *bad* car! It looks like a million bucks, but he only spent \$300 on it" is most likely conditioned by social factors, since in this case the phonological shape /bæd/ is shown by the intonation and context to be more-or-less equivalent in meaning to *good*. It is this type of extralinguistic variation that Herrick seeks to describe.

Much of his work is concerned with graphonomy, the study of writing systems. With the appearance of Herrick's dissertation (1977), however, it was shown that the particular mechanisms he has proposed for dealing with written language could successfully be extended to account for other diverse types of linguistic variation such as the alternation between the Cyrillic and Roman alphabets for writing Serbo-Croatian, the differences between men's and women's speech in an Amerindian language, dialect differences in Italian, and alternations in Javanese conditioned by social status.

Herrick proposes the addition of an "eclectic network" to the well-known multi-stratal network already in use by many stratificationists. The resulting configuration is depicted in figure 1.⁵ The eclectic network intersects the realizational portion of a language, controlling certain types of alternations associated with "style." Actually, the figure is somewhat misleading in that there is no known analysis that shows the need for more than one eclectic portion in a language. This is not to imply that the eclectic portion may intersect the realizational portion at only one level, however; in section 2 we will see that Gros Ventre may be analyzed as having one level of stylistic alternation between the morpho- and phonotactics and another between the phonotactics and the phonetic tactics.

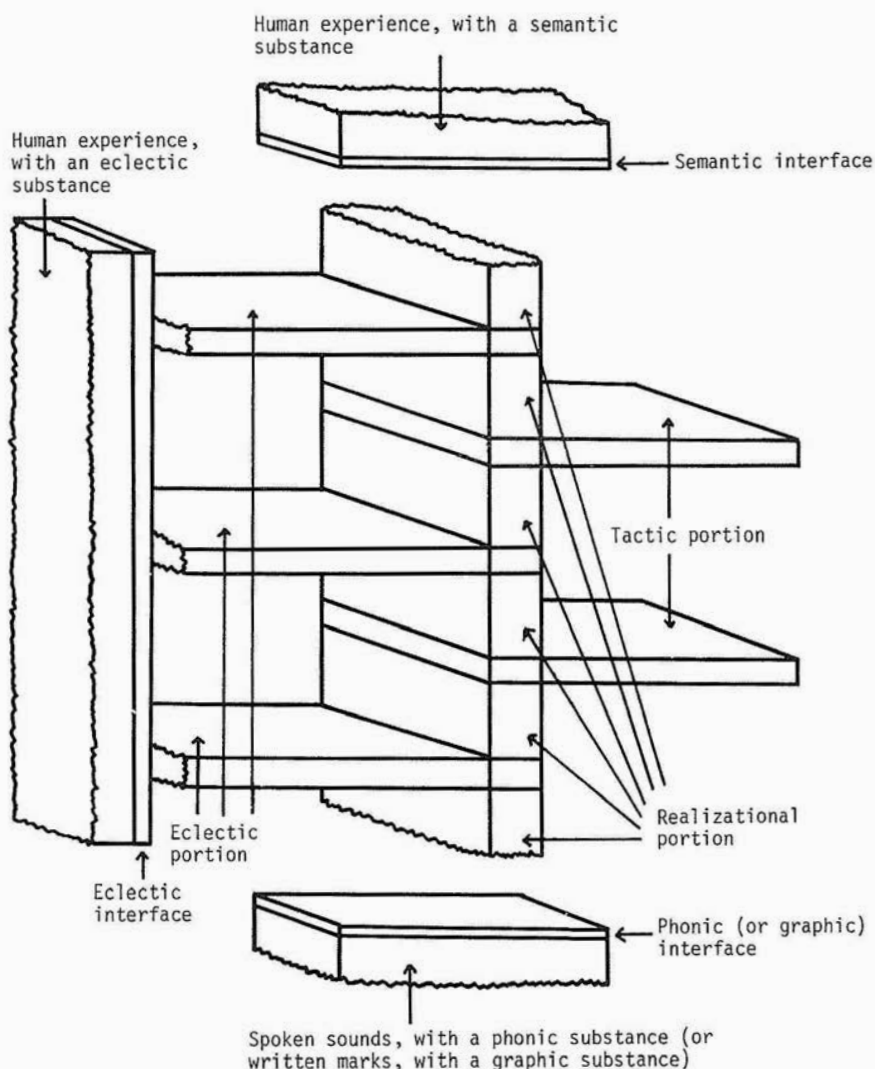


FIG. 1. Based on Herrick (1977:36, section II.2).

The graph in figure 2 illustrates the use of the eclectic network to control the alternate realization of graphemes in Serbo-Croatian. Two factors influence the decision to use either the Roman or the Cyrillic script. The first concerns ethnicity; i.e., is the writer a Serb or a Croat? Second, the needs of the prospective readers must be considered. If the members of the audience to whom the work is directed can (and will) read both scripts, then the ethnicity of the writer is the sole factor in determining which one will be used; a Serb will use the Cyrillic, a Croat will use the Roman. If, however, the writer knows the audience

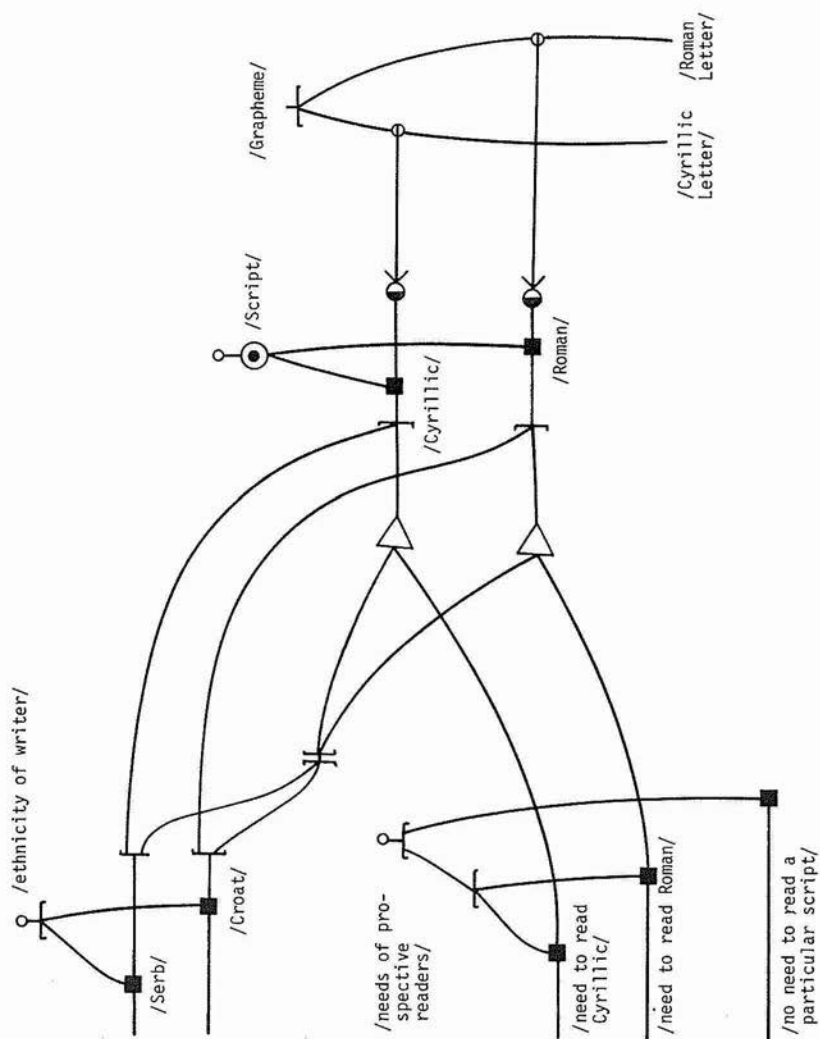


FIG. 2.

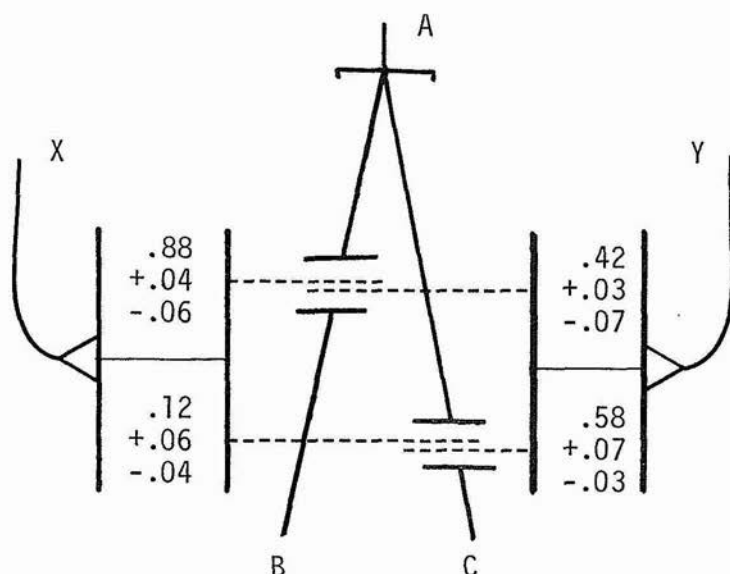


FIG. 3. Based on Herrick (1978:66, figure 12).

cannot or will not read one of the scripts, that factor will take precedence and the work will be written in the preferred script of the readers. The large circular nodes send impulses to the smaller GATE nodes, which interact with the realizational portion of the language to ensure the proper graphic realization of each grapheme according to the selected script. This is accomplished through a performance convention that an impulse through the realizational portion can only pass through a GATE node that has been activated by the eclectic portion.⁶

The introduction of an eclectic portion into stratificational theory will, then, allow us to account for *categorical* alternations, alternations that are mutually exclusive in a given environment. But what about probabilistic alternation, where in a given environment two or more forms may occur with varying frequencies? It is the statistical analysis of such phenomena that Itkonen believes is "true sociolinguistics," and in order to treat this type of phenomenon, stratificational theory must evolve some formalism for describing the frequency of occurrence of various forms.

Herrick (1978) proposes a further modification of the eclectic portion, which would account for probabilistic alternation, thus enabling stratificational theory to fulfill Itkonen's desiderata for a "sociolinguistic" theory of language. Figure 3 shows an example of the proposed modification.

Herrick (1978:67) describes the operation of the network as follows:

the index block on the left states that A, in the environment X, is realized sometimes by B according to [a curve of statistical probability] . . . and sometimes by C according to another curve which is its complement. The upper group of numbers in that index block

states that the ideal percentage for the realization of A by B is 88%, and that the range of allowable divergence for that realization extends from $(88 + 4 = 92)\%$ to $(88 - 6 = 82)\%$. The lower group of numbers in that block states that the ideal percentage for the realization of A by C is 12%, and that the corresponding range of allowable divergence extends from $(12 + 6 = 18)\%$ to $(12 - 4 = 8)\%$.

The same line of reasoning holds for the realization of A in environment Y, which is controlled by the index block on the right. In an ideal case, A will be realized by B 42% of the time in environment Y, and by C 58% of the time. Again, there are certain allowable divergences from the ideals.⁷

Herrick's work represents one sociolinguistic current within stratificational theory, but there are others. For example, writing under the pseudonym "The Second Foundation," Elizabeth W. Nall and I have been developing a stratificational approach to some of the phenomena studied within "the ecology of language," "the ethnography of communication," "the sociology of language," and so on.⁸ The phenomena subsumed under these labels include code-switching (in its broadest sense; see The Second Foundation [1978, 1979]) and the social factors that affect it, the use of language to define and control social relationships, and the ritual and recreational use of language.

Herrick's work and ours should be viewed as complementary; we hope to be able to account for the social relationships that control the eclectic network of a language, which in turn determines the linguistic varieties to be used in various social settings. To illustrate this idea, let us reconsider figure 2. Herrick's network determines the alphabet to be used based on the ethnicity of the writer and the needs of the prospective audience. We would like to be able to describe the (social) knowledge the individual uses to determine whether he or she is a Serb or a Croat, and to determine the needs of the readers, insofar as they can be consistently determined by factors of ethnicity, knowledge of only one alphabet, and so on.

In a sense, the primary thrust of the Second Foundation work may be seen as an effort at adapting the relational network notation to the description of social structures and their relationship to language; we believe that we have made fair progress toward showing that it is possible to account for the "hook-up" between social structure and linguistic structure, thanks to the highly flexible notational devices employed.⁹

Our research led us to hypothesize a bi-stratal model of social structure, but in a recent paper (The Second Foundation 1979), we retreated somewhat from this stand. It seems clear that two systems are indeed involved in the description of social relationships, but it remains to be seen whether they are hierarchically arranged or merely exert mutual control over each other at the same tactic level. The rationale for having (at least) two systems has been discussed elsewhere, and need not be presented in detail here.¹⁰ Suffice it to say that certain social relationships remain constant over long periods of time, while others can change very rapidly. In the first category are such relationships as *parent/child*, *employer/employee*, *male/female*, and *middle-*

class/lower-class/upper-class. In the second category are such relationships as *first-to-speak*, *order-giver/order-taker*, and *insulter/insulted*. The kind of phenomena that we place in the second category have been studied by people such as Erving Goffman, Albert Scheflen, and Eric Berne; they have been referred to as "transactions," "frames," "scenarios," and so on. In our published work, these quickly shifting phenomena are dealt with at the level of the *transactional tactics*, which is controlled by a higher *sociotactics* according to the long-term social relationships in effect between the participants in a transaction. Furthermore, our later work is also concerned with describing the strategies people employ to achieve certain ends, among them solidarity, dominance, and intimacy.¹¹

There has been a third current of sociolinguistic thought within recent stratificational work, one which bears at least a partial resemblance to speech act theory. Johannesson provides a stratificational description of the English modal auxiliaries. Of his study, he says:

A functional approach will be adopted: the basic question that will be asked is not "What is the meaning of this modal auxiliary?" but "For what purposes can a speaker use a sentence with this modal auxiliary?" . . . I will show how sentences with modal auxiliaries can be used to express the speaker's (or, in certain cases, some other participant's) involvement with a proposition. Three main types of involvement can be recognized: speaker's (etc.) volition . . . , speaker's attitude to the truth of a proposition . . . , and speaker's evaluation of an event. (Johannesson 1976:11)

Johannesson's conception of strata is somewhat different from that commonly found in the literature. For example, he conceives of

a semological system which is distinct from, but related to, the lexology, morphology, and phonology of a language. All the pragmatic phenomena—authority relations between speaker and addressee, speaker's presuppositions, etc.—that are relevant to the analysis of sentences with modal auxiliaries (and equivalent sentences without modal auxiliaries) will be accounted for within this semological system. (1976:12)

Thus Johannesson's semology has a number of similarities to the sociotactics and transactional tactics of The Second Foundation's work. Johannesson includes both taxonomic hierarchies and propositions in his semology (as illustrated in figure 4), patterns that would most likely be dealt with in the gnostotactics of "classical" stratificational theory. The shaded ANDs in the figure highlight the proposition "Carnivores eat meat," which is modeled after the more general proposition "Animals eat food," shown with unshaded ANDs. Through various other tactic connections, the concept 'animal' is shown to be an instance of 'concrete phenomena,' as are 'food' and 'plants.'¹² Similarly, the concepts 'canine' and 'feline' are subtypes of 'carnivores.'¹² Johannesson's use of one tactic system raises the question whether the two tactics hypothesized by The Second Foundation can be coalesced, even if only to avoid the proliferation of strata. Unfortunately, more research into this matter is needed before a final decision is possible. It does seem, however, that a

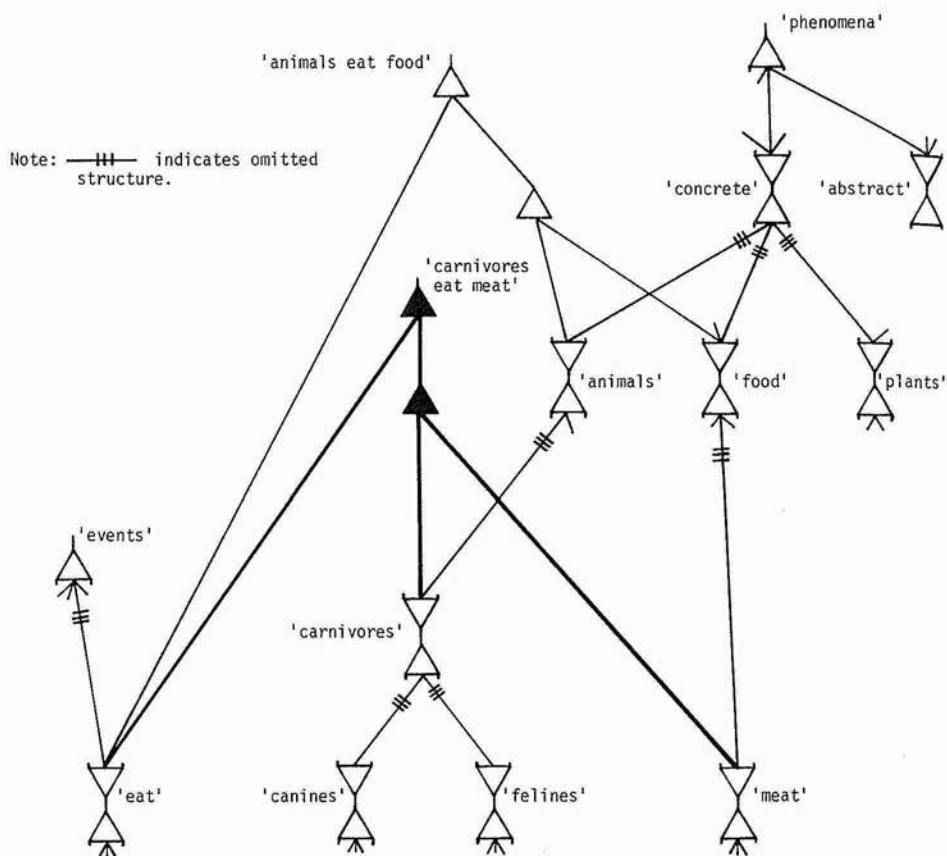


FIG. 4. Based on Johannesson (1976:135, 4:6).

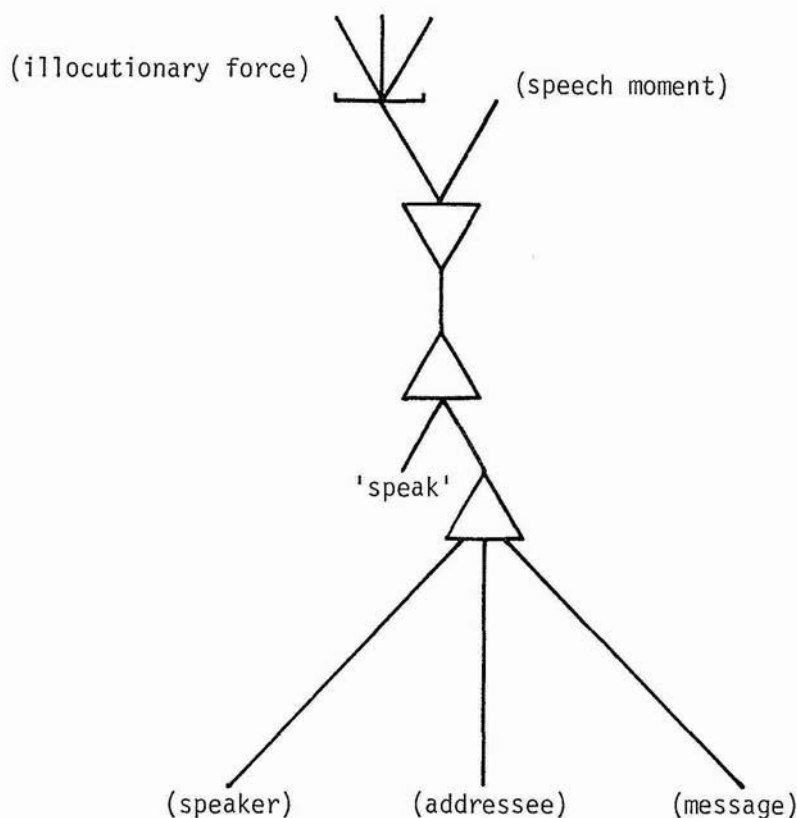


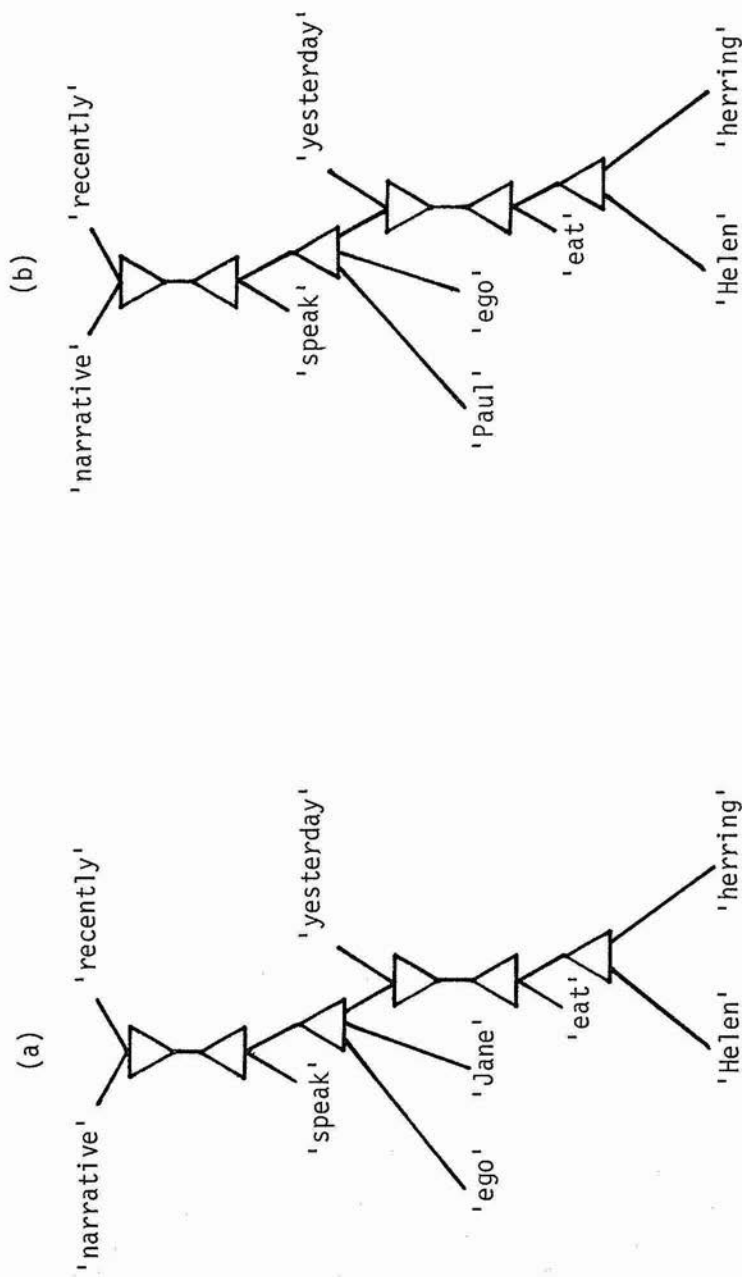
FIG. 5. Based on Johannesson (1976:139, 4:9).

number of Johannesson's ideas may be incorporable into the Second Foundation model.

Johannesson accounts for the form of modal sentences in English through the use of various sememes of illocutionary force and sememes representing social relationships between participants in a speech act. The general form of a speech event in his system is shown in figure 5.

Figure 6 illustrates how this basic structure can be "filled out" to account for an actual utterance. Here, the participants in the speech event are Paul (the speaker) and Jane (the addressee); the utterance is "Helen ate a herring yesterday." Diagram (a) is Paul's semological representation of the event, diagram (b) is Jane's.

The discussion so far, although necessarily brief, may serve as an introduction to the treatment of various "sociolinguistic" phenomena in stratificational theory. Diversity is readily apparent, but there is also an underlying unity, both in philosophy and in the common use of the relational network notation.¹³ Let



"Helen ate a herring yesterday."

FIG. 6. Based on Johansson (1976:139, 4:10).

us now examine a small set of data from an Amerindian language, bearing in mind what has been presented thus far.

2. MEN'S AND WOMEN'S SPEECH IN GROS VENTRE

This section takes its title from a short article by Flannery (1946), in which she describes the differences between men's and women's speech in Gros Ventre, an Amerindian language of Montana. Two types of differences are evident: differences in the realization of interjections (table I) and differences in pronunciation (table II).

TABLE I

DIFFERENCES IN INTERJECTIONS ACCORDING TO THE SEX OF THE SPEAKER

Male Speech	Female Speech	Meaning
q'ŭ	ou'kakyæ	admiration
u'tse	e'ha	surprise
itsełni	iθéini	disapproval
æhæhæ	o	wonder
wei	ao'	answer to a hail
ai'ha	u'hu	ouch!
wahei	næhæ	greeting/ assent

N.B. Flannery does not give the values of the phonetic symbols used in her article; that lack is not germane to an analysis of the interjections, however.

TABLE II

DIFFERENCES IN PRONUNCIATION ACCORDING TO THE SEX OF THE SPEAKER

Male Speech	Female Speech	Gloss
wadjínsihiθa	wakínsihiθa	newborn child
idjiθan	ikiθan	Upper Quarters (Proper Noun)
itcéniibitc	ikénibik	his gun
djáaθa	kyáaθa	abundant grass
dja'tsa	kya'tsa	bread
ΛΛnædjæn	ΛΛnækyæn	stones
tæctaniθibiætc	kyækyaniθibiæk	someone's pinto horse

A few comments on the data are in order before proceeding with the analysis. First, we will assume that the interjections in table I function only as the realizations of certain "emotion" or "social ritual" sememes. The Gros Ventre phenomenon, then, differs from the English use of adjectives such as *nice* and *charming* to express admiration, *gross* and *sick* to express disgust, and so on.¹⁴ Second, concerning the pronunciation differences, Flannery

states that *tc* and *dj* (presumably similar to *č* and *ǰ*) are co-allophones; furthermore, there is a *k*-like phoneme that is pronounced the same by both sexes.

The Gros Ventre data are of particular interest because they involve two levels of alternation conditioned by the sex of the speaker: one level between the morphemes and morphones and another between the phonotactics and the phonetic tactics.¹⁵

Figure 7 shows the alternate realizations of some interjections as determined by the gender of the speaker, represented here by the lines labeled MALE and FEMALE. As is discussed above, activation passing through the realizational portion of the network can only pass through open GATE nodes. Thus the realization of the morpheme ^M/ouch!/ is the morphemic sign ^{MS}/ai'ha/ if the speaker is male, ^{MS}/u'hu/ if female. The diversification involved can occur at several points, sometimes above the morphemic sign pattern and sometimes in the pattern itself, depending on which produces the most economical treatment. The realization of the morpheme ^M/Gros Ventre Language/ is pronounced [aáni] by speakers of both sexes and consequently the line representing it encounters no GATE nodes.

The gender-related phonological variation in Gros Ventre centers on the realization of two phonemes, symbolized here as ^P/k/ and ^P/č/. Figure 8 shows the graph of the proposed analysis. In the diagram, ^P/k/ represents the phoneme for which there is no variation, and ^P/č/ represents the phoneme that is pronounced *tc* or *dj* by men (keeping Flannery's transcription) or *kʏ* or *k* by women, the latter occurring before the vowels *e* and *i* and the word boundary #. The realizations of the two phonemes are shown with a superscript PN to indicate that in a comprehensive treatment of Gros Ventre phonology they would be described in terms of phonons. The alternation between the voiced and unvoiced allophones of ^P/č/ in male speech is not illustrated; it would occur at a slightly lower level than shown in the diagram.

At this point, let us examine how the relationships that control variation in Gros Ventre are themselves determined. In other words, we wish to know how the elements MALE and FEMALE are defined by the individual's knowledge of the world and the social context of the speech act. Herrick believed that a separate "eclectic interface" between language and experience is necessary to deal with this problem. He says:

the semantic substance and the eclectic substance of the same language may both be projected onto a single part of human experience during the production of an utterance. Thus in order to utter the Javanese sentence

(2) *Mangga, wa, pinarak mriki*. 'Please, uncle, sit down here.'

a certain part of human experience (envisioned as a certain human being whom the speaker knows to be his uncle) is perceived twice, across both the semantic and the eclectic interfaces. Across the semantic interface, this human being is perceived by some semological form which is eventually realized by the word *wa* 'uncle'; the same semological

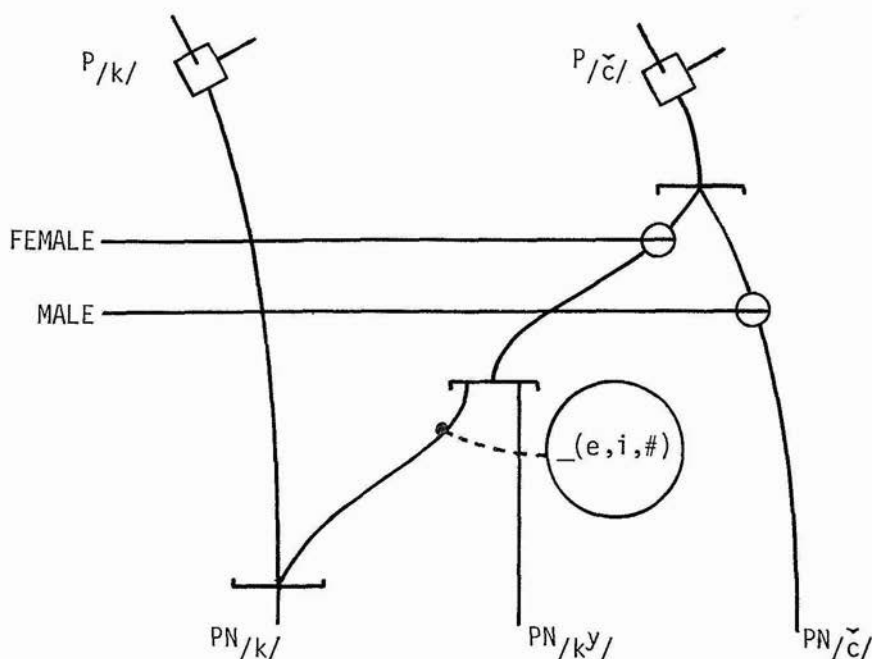


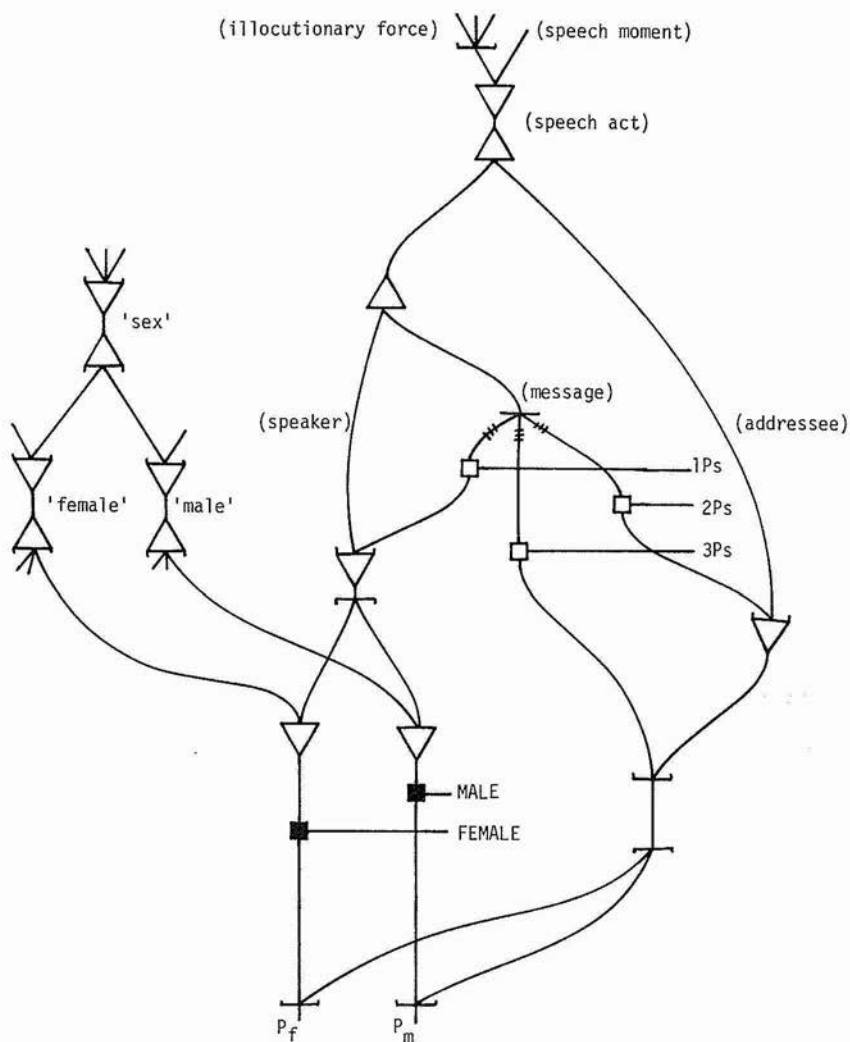
FIG. 8.

form will require that the Krômô Inggél word *pinarak* be used as the realization of the concept 'sit down'. Across the eclectic interface, the same human being is perceived by some eclectic form which will help to activate the eclectad E/Madyô/.¹⁶ (Herrick 1977: 247)

It appears, however, that a second interface is not necessary if the proper relationships can be defined within the individual's conceptual system. Figure 9 is an attempt to show that this can be done for the Gros Ventre data. This figure depicts a tactic construct that accounts for (1) a generalized speech act, (2) the possible origin of person forms—first person, second person, etc., and (3) the origin of the eclectic elements MALE and FEMALE.

The structure of figure 9 is based on Johannesson's work (cf. figures 5 and 6), but has some important differences. First, a non-linear structure is used in preference to Johannesson's linear arrangement of relationships in the speech act; as a result, the speaker is now more closely associated with the message. Furthermore, there is no longer a "speaking verb" that dominates the speaker-message-addressee complex. This element was felt to be redundant and unnecessary in the revised analysis given here.

Also, Johannesson does not deal directly with the issue of person; in figure 6a "ego" refers to the speaker, but in 6b to the addressee. Figure 9 takes into consideration a suggestion made by Hinds (1976:46) that first person elements




Note: 1Ps = first person, 2Ps = second person, and 3Ps = third person; shaded DIAMONDS indicate connections to the eclectic portion. As before,  indicates omitted structure. P_f = female participants, P_m = male participants.

FIG. 9.

refer to the speaker in a discourse, while second person elements refer to the hearer(s). Third person elements would then refer to participants in neither the speaker nor addressee role.

References to the speaker or addressee(s) may occur as part of the message, thus necessitating connections via upward ANDs to the lines that represent the roles of these participants. In effect, a first person word such as *I* indicates that a certain participant in the message is identical to the speaker in the speech act. The same logic holds for a second person element: it indicates that a certain participant in the message is identical with the addressee in the speech act. The third person element has direct connections to the participants that are not functioning in either the speaker or addressee role.¹⁷

Finally, the diagram in figure 9 shows how the eclectic elements MALE and FEMALE originate. Their activation is determined by the sex of the speaker, such information being provided through a pair of upward ANDs, which relate the speaker to part of a taxonomic hierarchy defining sex. The appropriate eclectic element for the sex of the speaker is automatically provided by the tactic structure of the speech event and its connections to the taxonomic system. The connections of the speech act to participants in other roles occur lower down in the tactics, precluding the occurrence of MALE or FEMALE with all participants except the speaker.

There is one more bit of information that must be integrated into our description of variation in Gros Ventre. As Flannery (1946:34-35) put it, "The old people, when telling a story, give the interjection proper to the sex of the character quoted, but, so far as I know, they do not make the appropriate variation in pronunciation."

In the tactics that defines the structure of the speech act, the element QUOTE is related to a line that allows the inclusion of one speech act as part of the message of another; this is illustrated in figure 10. In the embedded speech act, the realization of interjections is controlled by the sex of the speaker in that act, but the phonological alternation is still controlled by the gender of the "real" speaker—the speaker of the non-embedded speech act. Thus if a male is quoting a female, he uses the female interjections but continues to use male phonology.

Figure 11 (p. 202) illustrates how the eclectic portion of Gros Ventre can be set up to account for this situation. For the interjections, the specification of MALE or FEMALE operates as normal in the embedded speech act. In the presence of QUOTE, however, the specification of MALE or FEMALE to the phonology will be realized in a portmanteau relation with QUOTE, with QUOTE then having a connection to a REDUPLICATION node that specifies that the phonological alternation in the quoted material is controlled by the same element as the preceding non-quoted material.

Having dealt with this phenomenon, we have completed our treatment of variation in Gros Ventre. And although many interesting and relevant points

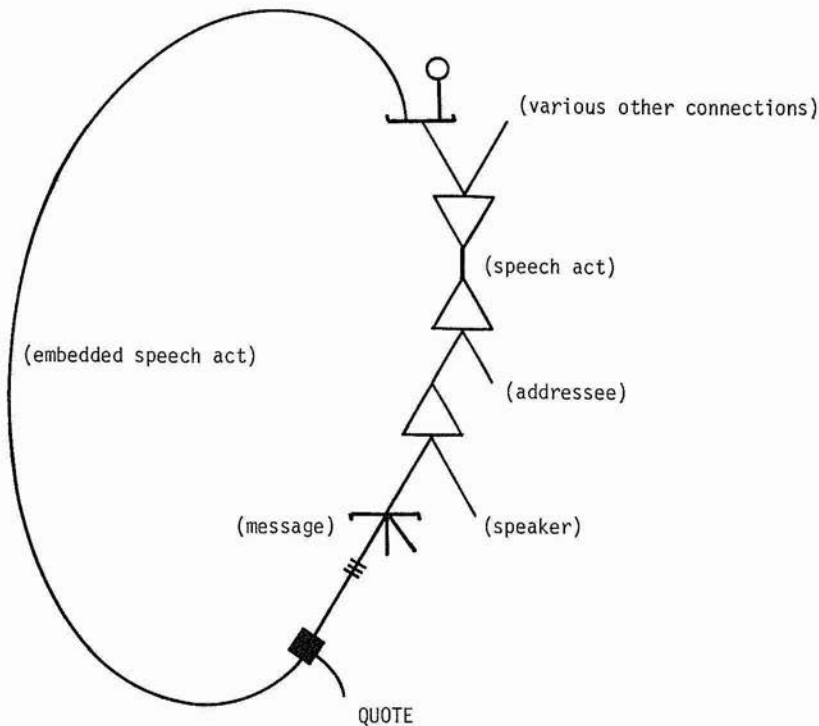


FIG. 10.

have been glossed over or omitted for lack of space, it is hoped that this work may at least serve as a document of interest for further research.

NOTES

1. As exemplified by the work of Labov and Bailey, among others.
2. The lack of a strict definition of "sociolinguistics"—or "linguistics" for that matter—may not be such a bad thing. The gist of Feyerabend's book (1975) is that strict definitions can actually hamper progress in a field by imposing "methodological blinders." For a brief but informative introduction to various schools of sociolinguistic thought, see Murphy and Ornstein (1976).
3. Note also the early concern of stratificationists with the structure of language at levels above the sentence. For further examples, see Taber (1966), Stennes (1968), Cromack (1968), and Gleason (1968).
4. See Dell and Reich (1977) for a stratificational model of slips of the tongue that employs a "spreading activation" model of performance. For examples of incorrect concord agreement and its implications for linguistic theory, see Blansitt (1979).

5. D. C. Bennett (1968:166-167) actually first proposed the use of an auxiliary network to control stylistic choices, but he apparently never developed the idea further.

6. Figure 3 is a slightly altered version of Herrick's figure III.1 (1977:89). The realization of the graphemes has been simplified to aid the reader, but this does not affect the points under discussion. For a more detailed description of how the eclectic portion of a language operates in a performance model, plus an account of Herrick's notational and terminological innovations associated with this portion, see Herrick (1977:35-55).

7. Again, Dell's spreading activation model could quite likely be modified so that certain lines in a network transmit more or less activation depending on the observed frequencies of various forms in actual speech. Reich's (1970) finite state model of performance could probably also be adapted to account for probabilistic alternation.

8. For a more comprehensive discussion of this "subtype" of sociolinguistics, see such standard works as Gumperz and Hymes's (1972) and Haugen's (1972).

9. The network notation has been criticized from many angles, and has perhaps been the main deterrent to the development of a larger following of stratificational theory. The advantages of having a system of notation that can both uniformly apply to linguistic and non-linguistic phenomena and handle their interconnection should be evident even to the most prejudiced observer. Among other things, the notation has enabled stratificationists to develop a simplicity metric that can apply to all parts of a linguistic description; no little achievement, considering the emphasis that has been placed on "evaluation procedures" by other theorists.

10. See, for example, The Second Foundation (1976).

11. See The Second Foundation (1977, 1978, and 1979). For a discussion of the term *strategy* as we have come to use it, see Di Pietro (1976).

12. Johannesson uses ordered AND nodes instead of overt case/role markings. I do not agree with the justification given for this practice (Johannesson 1976:134, 136), but a complete discussion of the objectives lies outside the present topic. Note also Davis and Copeland (in this volume) on the use of AND-ORS in the gnostology.

13. It is important not to confuse the *notation* with the *theory*. Conversely, the use of a different notation system does not presuppose incompatibility; tagmemics and systemic theory, both of which employ their own notational devices, also share a number of similarities with stratificational theory.

14. This should not imply that such usage is necessarily absent in Gros Ventre; we simply have no data on it. In English (and other languages), it is likely that restrictions of vocabulary items are determined in many cases by the sex of the speaker, addressee, or both. For instance, *charming* has a connotation of "femininity" and would more likely be used by a woman than by a man. More research into such matters is needed before we can postulate possible stratificational treatments of this phenomenon, however, so the matter will not be discussed further here.

15. The sex dialect data from Yana, described in Herrick's dissertation (1977), involve only one level of alternation, between the morpho- and phonotactics. Herrick's treatment of Sicilian dialects of Italian in the same work involves two levels of alternation, but all of it is purely phonological in that it relates to phonemes and phonons. In addition, his analysis there is based on a hypothetical construct—that of a native speaker of all dialects—and is therefore not comparable to the real-language situation in Gros Ventre.

16. For the details of the Javanese situation, see Herrick (1977:216-240).

17. The analysis given here is extremely limited in scope, obviously. The problem of plurality in persons has been left aside, as has the problem of reference to the sex of the participant. These issues do not arise in the consideration of such a limited amount of data, and their resolution must await further research.

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